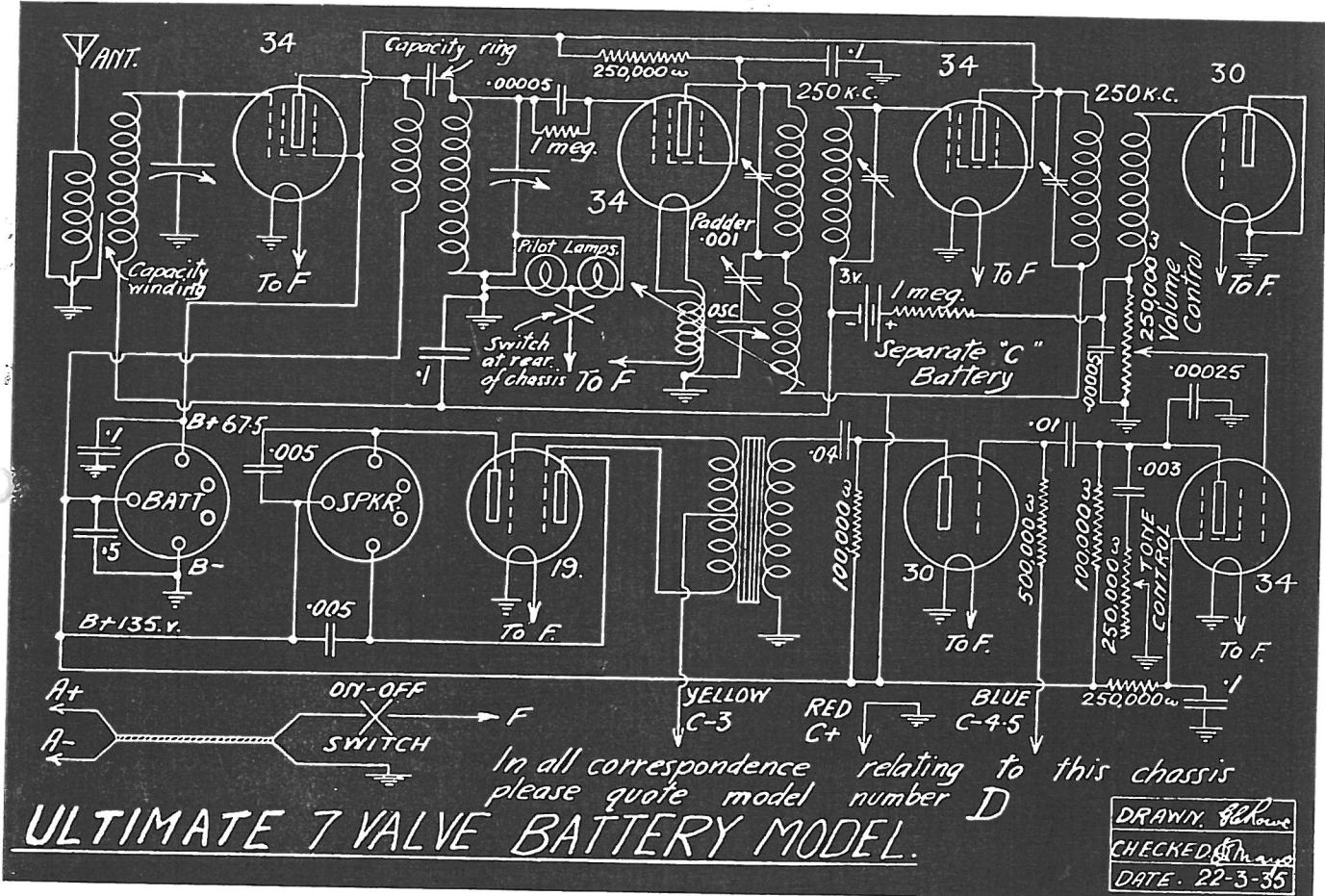


"Ultimate" Battery Operated Broadcast Model "D"



Ultimate model "D" is a seven-valve receiver designed for broadcast coverage and operation from battery power supplies. This receiver is of the console type and is fitted with four panel controls, these being for volume, tuning, tone (continuous) and battery switch.

In addition a toggle switch will be found at the rear of the chassis for dial-lamp switching.

Power supply for this receiver is obtained from a 2-volt accumulator ("A"), three series-connected 45 v. dry-batteries

("B") and two separate bias batteries. Of these last, the first has a potential of 3 volts and "floats" on the A.V.C. line in order to provide standing bias for the type 34 R.F. and I.F. amplifiers. The second bias battery is a 4.5 v. unit tapped at 3 v. and provides grid voltage for the A.F. driver and output valves.

One or two points in this receiver are worthy of special mention. The first is the use of a remote cut-off valve (type 34) as autodyne frequency converter (a type 32 being more usual in this posi-

tion); the second is the use of a type 30 triode as diode detector and A.V.C. rectifier, followed by a diode-biased type 34 as A.F. voltage amplifier, thus providing a degree of audio A.V.C., and the third is the shunt-fed primary of the 19 driver transformer. All these points are rather unusual and should be carefully noted.

"Ultimate" receivers are manufactured by Radio Ltd., of Auckland, New Zealand, and are distributed in Australia by Geo. Brown & Co. Pty. Ltd., of Clarence Street, Sydney, N.S.W.

the A.V.C. diode load to the junction of the two. The bias so derived is something less than one volt, but it is sufficient to introduce some A.V.C. delay and also prevents the plate currents of the controlled valves from becoming excessive under "no signal" conditions.

The particular "7/35B" circuit shown is the basic arrangement for this receiver. A variant will be encountered in which the European valve types shown are replaced by similar American types and the I.F. is changed to 465 kC. The circuit arrangement of this "American" version is the same as that illustrated, with the exception that provision is made for the lower screen voltage requirements of the R.F. and I.F. valves used.

WELDON "7/35B"

(See circuit diagram on facing page)

Weldon model "7/35B" is a seven-valve receiver designed for broadcast coverage and operation from battery power supply. This receiver is of the console type and is fitted with four controls, these being for volume, tuning, tone (continuous) and battery switch. The loudspeaker fitted to this receiver is an 8-inch permag. unit with a transformer impedance of 8,000 ohms, plate-to-plate. This model was marketed during 1935.

Power supply for this receiver is obtained from a 2-volt accumulator ("A") and three series-connected 45 v. dry batteries ("B"). No bias battery is required as the type 49 output triodes each have their grids tied together and operate on zero bias, while the two A.F. amplifier valves (B217, voltage amplifier, and KBC1, triode section A.F. driver) receive their bias from the drop across the 100 ohms and 150 ohms resistors wired in series with the "B—" lead. The R.F., converter and I.F. valve grids are returned to the A.V.C. line and their "standing" bias is derived in a most ingenious manner from the oscillator grid current. This is achieved by placing a 5,000 ohms resistor in series with the lower end of the oscillator grid leak and returning